

JULY
1953

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Amateur Radio

JOURNAL OF
THE WIRELESS
INSTITUTE OF
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WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the Official Broadcasts.

VK3WI: Sundays, 1100 hours EST, 7145 Kc. and 2000 hours EST 50 and 144 Mc. No frequency checks available from VK3WI. Intra-state working frequency, 7125 Kc.

VK3WI: Sundays, 1130 hours EST, simultaneously on 3575 and 7145 Kc., 51.016 and 144.59 Mc. Intra-state working frequency 7125 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

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VK3WI: Sundays, at 1000 hours EST, on 7145 Kc. and 144.5 Mc. No frequency checks are available.

EDITORIAL



LET US NOT FORGET

As the years roll by and the early activities of Amateur Radio with its little known phenomena, its tradition and its scientifically romantic attributes recede into the dimming mists of the past, we are apt to forget those who have past beyond the vale; forget what they stood for and the codes under which they conducted our unique hobby and preserved it for us.

It is not that in forgetting all the past the youngest of us is committing any great "sin" because in a scientifically progressing world there is little room for sentimental thinking that may obscure our more mature judgment and endanger the existence of our world instituted and internationally recognised radio service. But—and it is a big but—the ethics of Amateur Radio really do mean something to each and every one of us and do tend to become forgotten as the older of us pass on and the—shall we say—"newly initiated"—carry on in our stead.

Next month when the W.I.A. conducts its annual Remembrance Day Contest, we shall be remembering those who have passed to the great beyond, particularly those who paid the supreme sacrifice in the cause of defending their country against aggressor nations in two world wars.

These are the men who founded our hobby on a rock designed to stand firm forever, to withstand the tests of time and to maintain for those who followed on in the years after, a hobby inculcating everything that democratic freedom of speech and action could afford.

Let us not forget these valiant members, once so proud to be members of our ranks; let us particularly remember them all during the Remembrance Day Contest; and above all, let us keep ever to the forefront of our minds the ethics and spirit of our great hobby—the Amateurs' Code:—

1. The Amateur is Gentlemanly.
He never knowingly uses the air for his own amusement in such a way as to lessen the pleasure of others. He abides by the terms of his license.
2. The Amateur is Loyal to his Society.
3. The Amateur is Progressive.
He keeps his station ahead of science. It is built well and efficiently. His operating practice is clean and regular.
4. The Amateur is Friendly.
Slow and patient sending when requested, friendly advice and counsel to the beginner.
5. The Amateur is Balanced.
Radio is his hobby. He never allows it to interfere with any of the duties he owes to his home, his job, his school or his community.
6. The Amateur is Patriotic.
His knowledge and his station are always ready for the service of his country and if necessary his community.

LET US NOT FORGET.

FEDERAL EXECUTIVE.

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Practical Three Element 14 Mc. Rotary Beam

BY A. E. WILLIAMS,* VK5BO

IT has often been said that a decent beam antenna will do as much for a signal as an added 100 watts. Practical results over the past four years with various beam antennae have proved to the writer's satisfaction that a beam does help the signal along.

When it was decided that the time had come to get rid of the old full wave Zepp that had done good work for many years, the writer found surprisingly little information on beams of a practical nature available in Australian radio papers. This description may therefore help someone looking for such information.

LOCATION

The final design will be largely influenced by the surrounding location. If fortunate, you may have ample room for a wide spaced beam. In most instances, however, the described close-spaced array will be about as big as convenient for the average home block. Erect the tower as near as possible to your radio room to obviate necessity for long leads to the rotating motor, etc.

TOWER

Steel piping makes a good tower, but of course, is weighty, both in a physical and financial sense. If you chafe around some of the chemical works you may be lucky enough to obtain some rejected piping at low cost as the writer did. Whatever material you chose to use, it is better to spend an extra couple of pounds in the first instance than to

have the heart-breaking job of sorting out the wreckage after the first gale wind.

Make provision for means of climbing to the head of the tower and at the head provide a platform which will allow you to stand there to do any work required on the motor or leads. The writer overlooked this point and now finds that he is cramped for room to work.

The tower is 40 ft. high—10 ft. wide between legs at base tapering to 2 ft. at top and is bolted by means of flanges on the bottom of each pipe to railway line sleepers sunk three feet under ground.

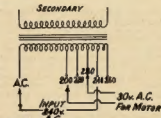


Fig. 3. USING PRIMARY OF TX HV TRANSFORMER TO SUPPLY BEAM MOTOR WITH 30V. A.C.

Note.—A very heavy transformer would be needed to avoid overheating.—Technical Editor.

ELEMENTS

Here you have several materials to select from: duralium, square section aluminium, conduit, steel tubing, etc. Electrically welded steel tubing of 18 gauge was selected for reasons of economy and because it is readily obtainable. Six lengths each 19-20 ft. of 1 inch tubing are required.

The spacing between elements as given was found to give best results for forward gain. Back-to-front ratio was not given much consideration by the writer as due to geographical location, VK5 has not much behind it to worry about when QSOing short route.

Give the tubing several coats of paint, aluminium was used in this case, for protection against rust. It is surprising how rust soon eats its way through. For the same reason, seal the ends of the tubing with plugs of wood and paint well. Plastic cement is a good sealer.

A support to carry the elements is your next job. The design indicated is made up of 3" x 1" Oregon planed all round and bolted together. The heavy boom to carry the element supports is a piece of 10" x 1 1/2" Jarrah, really heavy to handle, but should be good for many years' service. You may have other ideas to lighten this section, the writer prefers ruggedness. There is no sign of sag after three years' service.

The director and reflector are both directly mounted onto their supports without insulators. The radiator is mounted on four 3" stand-off insulators. No doubt it would be an improvement

to have the director and reflector on insulators also, but no adverse effect has been noted by not doing so, even in wet weather.

As each element comprises two lengths of tubing, joining them (director and reflector only) was done by means of ferrules made to fit over ends and then soldering all together. The ferrules or sleeves were made of galvanised iron.

Where the tubing is drilled and screwed to the boom, apply a liberal coating of plastic cement before painting over to prevent entry of water inside tubing, causing internal rust.

ROTOR

To my way of thinking after having tried several ideas out, there is only one satisfactory means of rotating the beam, and that is by the use of a motor—in this case a propeller feathering motor obtained ex-disposals.

It is ideally geared to something like 7,000 to 1 which, of course, prevents any movement in the wind; it is compact and can be driven clockwise or anticlockwise by means of two switches. Voltage required is 28-30 volts a.c. or d.c. at something like 5 amps, and this is obtained by taking the voltage off the h.v. transformer primary (refer Fig. 3).

Suppression of "hash" is effectively done by wiring 0.002 uF, mica condensers from the brush to the motor casing.

The beam rotates at about three-quarters of a revolution a minute. This could be quickened, but it would mean removing some of the gear wheels inside the motor—quite a job and requiring some mechanical knowledge.

Ways and means of mounting the motor to the tower and to the boom proved quite a headache. Fig. 4 shows a sketch of the one used here. The method used resulted in two sections. The motor holding plate is a piece of mild steel with a hole cut out in the centre to take the motor which is bolted to it. The motor is already conveniently drilled. The plate is then bolted to the

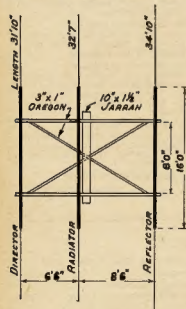
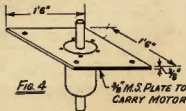


Fig. 2

* 21 May Terrace, Ottoway, Rosewater, S.A.

top of the tower. The headpiece for joining the boom to the motor is (A) a piece of $\frac{1}{2}$ " M.S. plate drilled in four corners to take $\frac{1}{2}$ " bolts for fixing to boom. In the centre of this plate have welded a 10" length of water piping (B) supported by four right angle sections of M.S. welded to it (C).

On the bevel gear of the motor also weld a 9" length of piping of a diameter selected to fit over the bevel gear. The diameter of the other length of piping (B) is selected to fit over the piping welded to the motor. This idea allows the headpiece to be bolted to the boom on the ground and the whole array to be lifted onto the motor in one section.

Two holes to take $\frac{1}{2}$ " bolts were then drilled through both lengths of piping and bolts inserted to lock the whole together.

FEEDERS

A satisfactory feed system was found to be a quarter wave matching section 15' 3" of 70 ohm co-axial cable, one end of which is soldered to the central ends of the two lengths of tubing comprising the radiator and this liberally sealed off with plastic cement. The other end of the co-ax is joined to a 500 ohm open wire line running to the transmitter.

ERECTION

The tower was built from the ground upwards. The stays are also piping with ends flattened and drilled to allow bolting to the brackets welded to the legs.

The array was constructed on the ground. First the boom and elements were assembled and supported on a rest, sea-saw fashion to obtain the necessary point of balance at which point the heavy piece of Jarrah supporting the array was bolted. The whole assembly was then well painted.

When you want to get the array onto your tower, if possible, get help from a couple of rigger friends. If you cannot do so, then obtain a 20 ft. length of 3" x 3" timber and fix it at the top of the tower to one side. At the top of the pole fix a block and tackle and ropes. One man can handle the lifting from the ground and two men are required at the top of the tower to juggle the array into position.

The writer suggests that you obtain assistance from a couple of riggers, they are employed at most works and they will do the job in an hour and will probably assist you with the loan of the necessary gear.

DIRECTION INDICATOR

The writer uses a pair of radio compass indicators ex-disposals. One is mounted in a box on the motor mounting plate and is driven from the beam belt driving shafting by means of a double belt drive made of Luron fishing line. It is necessary to have a small grooved pulley turned up the same diameter as the outside diameter of the piping. While not absolutely trouble free, it does quite a good job and does not slip.

Which Are You?

The two kinds of people on earth I mean
Are the people who lift and the people who lean.
Wherever you go you will find the world's masses
Are divided in just these two classes.

And oddly enough, you will find, too, it seems
There is only one lifter to twenty who lean.
In which class are you? Are you easing the load
Of overtaxed lifters who toil down the road?
Or are you a leaner who lets others bear
Your portion of labour and worry and care?

—Author Unknown.

(Inserted by Federal Executive.)

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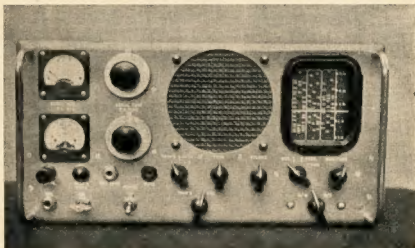
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AMATEUR TELEVISION

PART ONE

BY E. CORNELIUS,* VK6EC

"This fascinating thing—Television!" I borrow the opening remark of George Hutton, which captured the interest of his listeners at an I.R.E. lecture recently delivered in Perth.

And it is fascinating, not only to read about, but to do —.

This series deals with television from the experimenter's viewpoint, and I hope to impart perhaps a little of the absorbing interest that I have found in (for Australia) this new branch of the art.

The transmission of t.v. signals by Amateurs is prohibited in Australia, but that does not greatly reduce the interest and the scope of closed circuit t.v. The complexity of the video side is sufficient too, to occupy a great deal of time, and equipment.

On the principle that sooner or later, broadcast and industrial t.v. will be with us, I decided to find out what I could. The standard text books and technical articles deal fairly fully with reception and receivers, but there is far less on camera, studio and transmitter equipment. A point was reached where theory had to be balanced by practice, and I decided to build a closed circuit system.

The following general rules were followed:—

1. The system was to be all electronic.
2. Standard broadcast v. practice was to be adhered to, within the limits of the equipment available.
3. A true t.v. circuit was to be used, with one single channel to take picture, sync, and blanking signals from transmitting equipment to receiving equipment.

I found certain limitations, which largely controlled the equipment used, namely:—

1. Cost. Disposals gear helped, but standard camera tubes were out of the question. Standard receiving type components were used almost throughout, notable exceptions being dealt with later.
2. Complexity. The limitation here is the range and accuracy of the test, measurement and alignment gear available.
3. Inherent limitations of available equipment. This controlled the number of lines, and the detail obtained.

A working system is now in operation, using 210 lines, 25 frames sequential scanning, using a flying spot scanner, multiplier photocell and amplifiers, sync. signal generator, and sync. and blanking mixer. The video output is fed by co-axial cable to a video receiver using a five inch c.r.t. for picture display.

The picture is rock steady, and has excellent detail for its size—about 4" x 3".

A new sync. signal generator is under construction for 245 lines, 50 fields, 25 frames interlaced scanning, and this will be described later in this series.

Following on the general theoretical articles on Television in past issues of "Amateur Radio," here is a series of articles on a practical Amateur set-up. Using the wired television technique, it is possible, with this equipment, to obtain reliable practical experience on the circuits involved, for future use.

ELEMENTS OF A TELEVISION SYSTEM

To transmit a picture through a single channel, the picture must first be divided into elements of shades of grey, and signals corresponding to these elements transmitted in sequence. Each element must be small enough to maintain the finest detail required of the picture.

At the receiver, the picture currents corresponding to these elements are transformed again into corresponding degrees of light and shade, and re-assembled in the same order as the original picture.

For convenience, the picture is divided into narrow horizontal strips, or lines, which are transmitted in sequence, the whole picture being repeated at a rate sufficient to avoid visible flicker.

With my equipment, the scene or object (in darkness) is scanned by a flying spot of light from a c.r.t., and the light transmitted through a transparency or reflected from an object is converted to a picture signal by a photocell. This is amplified, and after blanking and synchronising signals are added, becomes a standard type video signal.

In the flying spot scanner used, the limit due to line overlap (spot size), is of the order of 250 lines. To have equal resolution to the 210 vertically stacked strips, each line should be able to resolve 200 to 250 elements (changes of light and shade) along the length of the line. Allowing one black and white element to correspond to one cycle, the pix bandwidth required is from 25 cycles—the picture repetition rate—to a frequency found from—

pictures/sec. x lines/picture x $\frac{1}{2}$ elements/line x height: width ratio.

For my standards this becomes—

$$25 \times 210 \times 100 \times 4/3 = 0.7 \text{ Mc.}$$

In practice, a response to 500 Kc. would have been adequate, but to allow for future improvement, the following tentative standards were adopted—

- 210 lines per picture.
- 25 frames per second.
- Video bandwidth—1.0 Mc.
- Scanning—sequential.

SCANNING

To scan a transparency it was necessary to have a fine spot of light traversing the picture horizontally at the rate of 3250 lines per second, and

vertically 25 times per second. Under these conditions, the spot traces a raster with 210 lines vertically one below the other. The length of each line was made four units, and the height of the 210 lines was made 3 units, to obtain the 4:3 aspect ratio.

The light transmitted through the transparency—mounted against the screen of the flying spot scanner—varies in accordance with the translucency of the picture at each point, and a photocell and amplifier deliver currents proportional to the light received at each instant.

These amplified currents are made to modulate the intensity of a light source—a cathode ray tube—which provides a spot of light moving in exact synchronism with the scanning spot.

To scan an object or person, the raster is focussed on to the plane of the object by a lens, and the light reflected (much less than with the transparency) is detected by the photocell as before.

BASIC EQUIPMENT

The five basic items of equipment are:—

- (i.) A flying spot scanner;
- (ii.) A light sensitive device;
- (iii.) A synchronising system;
- (iv.) A reconstituting device;
- (v.) A mixer to mix picture, blanking and sync. signals.

(i.) The flying spot scanner used is a c.r.t. with a short persistence white screen. Two time bases and deflection amplifiers are used to develop a raster approx. 4" x 3". This has 210 horizontal lines, and is repeated 25 times per second.

The tube is a VCR112, run at an e.h.t. of 3,200 volts. The light intensity is high for a cathode ray tube, but very low by general illumination standards. Other suitable tubes are the ACR1, CV954 and possibly Cosmor 20K, CV1112, CV959, NC6, NC10, ACR2, and 5BD4.

(ii.) The light sensitive device is a 931A multiplier photocell, working at 90 volts per dynode stage, and with an anode potential of 125 volts. A one stage preamplifier, and cathode follower, feed pix signals out at a level of about 1 volt peak/peak, to the video amplifier-sync. and blanking mixer. Any multiplier photocell, with suitable spectral sensitivity should be satisfactory here.

(iii.) The synchronising device is essential to keep the two moving spots (that of the scanner, and that of the picture tube) in exact synchronism.

For the comparatively low brilliance of the 5BP1 picture tube, 25 frames per second is adequate to avoid flicker. For moving objects, or higher brilliance, a higher field rate is advisable, and interlaced scanning will provide this without increase in bandwidth.

It does, however, greatly increase the complexity of the synchronising system. For this reason, sequential scanning was chosen for initial experiments, but

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A Simple Three-Band Two-Stage Transmitter

BY L. B. FISHER,* VK3AFF

INTRODUCTION Whilst the circuit shown in Fig. 1 may contain nothing fundamentally new in the field of transmitter design, it has not, to the author's knowledge, been published elsewhere and it is hoped that it will be of interest to the younger Ham starting out at a time when prices of radio components are fairly high and hence economy of parts becomes quite a consideration.

Current practice appears to favour the use of a v.f.o. having its output in the 3.5 Mc. band and this, in my own case, is provided by using one of the Command Transmitter series suitably modified. In order, however, that ample drive to run a single 807 power amplifier on 14 Mc. may be obtained, the circuit to be described was evolved.

bands can be carried out in a matter of moments.

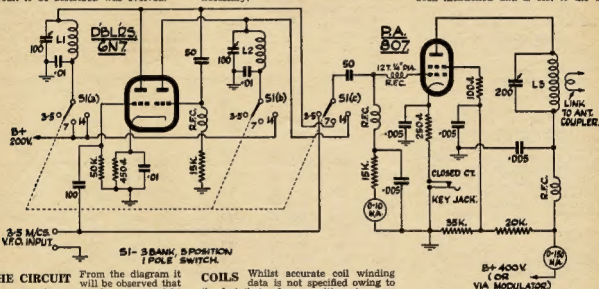
The plate tank coils of the 6N7 (L1 and L2) are tuned for resonance in the 7 and 14 Mc. bands respectively (check with your absorption wavemeter) and thereafter do not require any adjustment unless it appears necessary to de-tune one or the other to reduce the drive to the 807 final.

The usual precautions against parasitic radiation have been included in the p.a. circuit and these should not be omitted. A small grid suppressor choke (shown in the grid circuit) consists of 12 turns of 20 gauge enamelled wire about $\frac{1}{4}$ inch diameter and the inclusion of a 100 ohms carbon resistor in the screen circuit of the 807 are considered necessary.

PERFORMANCE Using conventional plate and screen modulation with a pair of 6V6s running in Class AB1 and with an input of 25 watts to a long-wire antenna, good reports have been received from all States from what is regarded as a particularly poor location—the average antenna height being only about 17 feet above the shack which is situated in the bottom of a valley.

CONCLUSION It is not anticipated that any difficulty will be experienced in getting this little rig to operate in a very satisfactory manner, but the following hints are especially appended for the information of the new licence holder—

1. The transmitter layout has not been mentioned and is left to the in-



THE CIRCUIT From the diagram it will be observed that the transmitter may be run straight through on the v.f.o. frequency (3.5 Mc.) or, by means of switching in the appropriate doubler or quadrupler, on 7 Mc. or 14 Mc. with the correct final tank coil plugged into circuit.

A 6N7 twin triode as two separate doublers running at low voltage answers these functions quite satisfactorily. The switching arrangements are self-explanatory and it will be noted that the switching of "hot" leads has, for obvious reasons, been reduced to a minimum. A good quality (ceramic if possible) three-bank three-position one-pole switch is strongly recommended to reduce losses to a minimum.

An 807 power amplifier in a conventional circuit runs as a straight amplifier on the excitation frequency and plug-in coils (L3), wound on 1/4 inch diameter polystyrene formers for 3.5, 7 and 14 Mc., selected as required. The use of plug-in coils in a comparatively low-power transmitter of this type has proved quite satisfactory and the changing of the final tank coil and subsequent re-tuning of this stage when changing

COILS Whilst accurate coil winding data is not specified owing to the fact that valve capacities, etc., vary considerably, the following table should be taken as a general guide for initial experiments and coils thereafter "pruned" as found necessary—

Coll L1—12 turns No. 18 gauge spaced to occupy 1 inch on a $1\frac{1}{4}$ inch dia. former.

Coil L2—7 turns No. 18 gauge spaced to occupy 1 inch on a $1\frac{1}{4}$ inch dia. former.

Cell L³—

3.5 Me.: 28 turns No. 14 gauge close wound on a $1\frac{1}{2}$ inch polystyrene former.

7 Me.: 14 turns No. 14 gauge close wound on a $1\frac{1}{2}$ inch polystyrene former.

14 Me.: 7 turns No. 14 gauge close wound on a 1½ inch polystyrene former.

POWER SUPPLIES 200 volts for the doublers stage and 400 volts for the p.a. are required. A 100 Ma. power transformer is quite suitable and has been in operation for many months without any signs of over-heating. Rectifier in use is a 5Y3G in a standard circuit.

dividual to decide upon. A point to note is that by mounting the 807 in the horizontal plane with its socket in a vertical metal panel at right-angles to the transmitter chassis, the grid circuit can be entirely shielded from the anode circuit and also that short connections to grid and anode circuits are thus facilitated.

2. Check your coils with the aid of a good absorption type wavemeter—only takes a minute or two and establishes beyond doubt that you are tuned to the correct harmonic. This is **important** in respect of the p.a. tank circuit where the C has to be made high (200 pF.) in order that a good Q can be obtained on 3.5 Mc.

3. Watch your grid drive to the 807 p.a. About 4 Ma. is a maximum in this particular circuit.

4. Use an aerial tuning unit. The use of an aerial coupler is recommended and enables the transmitter to be correctly and efficiently loaded by any of the all-band type of antennae and, in addition, eliminates the production of any "spurious" frequencies which are the usual cause of b.c.i.

Design Data for use with Band-Switched Exciters

Prepared from information compiled by R. G. LANE, G2BYA

The following details enable Wide-Band Couplers to be constructed for use with a wide range of valves suitable for the exciter stages of modern Amateur transmitters.

The Couplers can conveniently be made by modifying the 85 Kc. I.f. transformers used in the Command Receivers, type BC453. If these are used, the earthing strap to the rotor of the secondary trimmer must be removed and the two 175 pF. "button" condensers should be removed.

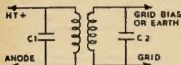


Fig. 1.—Circuit Diagram of Couplers. C1 and C2 are 4.5/17 pF. Trimmers.

However, if these i.f. transformers are not available, satisfactory Couplers can be made from the details provided, using the same winding data.

Table 1 gives two sets of figures for each valve, viz. the primary figures (Pri.) and the secondary figures (Sec.). The Couplers should be designed to match the valves with which they will be used; the primary winding should contain the number of turns specified against "Pri." for the valve driving the Coupler, whilst the secondary winding should be wound with the number of turns shown against "Sec." for the valve which follows the Coupler.



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NOTES

If BC453 i.f. transformers are used the existing trimmers are suitable for C1 and C2 (see Fig. 1).

The 80 metre Coupler is layer or wave wound (shown in Fig. 2), each winding being $\frac{1}{4}$ inch wide.

The 40, 20, 15 and 10 metre Couplers require single-layer close-wound coils on a 0.45 inch diameter former. The "earthy" (i.e. the HT+ and GB— or Earth) ends of the two windings should be adjacent.

The windings of all the Couplers should be separated by the distance (S) shown at the foot of Table 1.

The coils are to be wound as described using the following wire:—

80 metres	38 s.w.g.	D.S.C.
40 "	40 "	Enamel
20 "	32 "	"
15 "	26 "	"
10 "	24 "	"

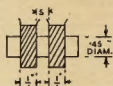


Fig. 2.—Winding details for 80 Metre Coupler.

ALIGNMENT

There are three possible ways of lining up the Wide-Band Couplers—

(i.) The best way is to use a wobulator and c.r.o. and fiddle until you get flat transmission across the band.

(ii.) Is to disconnect C1 and resonate the secondary with C2 to the middle of the band, then disconnect C2 (without varying it) and connect C1 to the primary and resonate it to the middle of the band, and then put C2 back.

Valve		80 Mx		40 Mx		20 Mx		15 Mx		10 Mx	
		uH.	T.	uH.	T.	uH.	T.	uH.	T.	uH.	T.
6AG7	Pri.	78.5	73	20.5	48	5.3	24½	2.36	16½	1.26	12
	Sec.	65.2	67	17.2	44	4.4	22½	1.94	15	1.05	11
6AM6	Pri.	94.0	80	24.5	53	6.25	26½	2.8	17½	1.48	12½
	Sec.	78.5	73	20.5	48	5.3	24½	2.36	16½	1.26	11½
6AQ5	Pri.	83.5	76	21.6	49½	5.6	25½	2.5	16½	1.32	12½
	Sec.	78.5	73	20.4	48	5.25	24½	2.35	16½	1.26	11½
6AU6	Pri.	86.8	77	22.6	50½	5.8	25½	2.6	17	1.37	12½
	Sec.	85.0	76	22.0	50	5.7	25½	2.54	17	1.35	12½
6BW6	Pri.	78.5	73	20.5	48	5.3	24½	2.36	16½	1.26	11½
	Sec.	76.0	72	19.7	47	5.1	24	2.28	16	1.22	11½
6CH6	Pri.	85.8	77	22.6	50½	5.8	25½	2.6	17	1.37	12½
	Sec.	82.5	66	16.8	43½	4.2	22	1.89	14½	1.0	10½
6F12	Pri.	88.0	78	23.0	51	5.9	25½	2.63	17½	1.4	12½
	Sec.	74.5	71	19.5	47	5.0	23½	2.24	15½	1.2	11½
6F13	Pri.	84.0	76	21.8	49½	5.6	25	2.5	16½	1.33	12½
	Sec.	69.5	69	18.3	45½	4.65	23	2.08	15½	1.12	11½
6F14	Pri.	86.0	77	22.2	50	5.72	25½	2.56	17	1.36	12½
	Sec.	70.0	69	19.4	47	4.7	23	2.1	15½	1.13	11½
6SG7 & 6SH7	Pri.	80.0	74	20.0	47½	5.38	24½	2.4	16½	1.28	12
	Sec.	76.0	72	19.7	47	5.1	24	2.28	16	1.22	11½
6V6	Pri.	89.5	69	18.3	45½	4.65	23	2.08	15½	1.12	11½
	Sec.	72.0	70	18.8	46	4.82	23½	2.15	15½	1.16	11½
EF50	Pri.	86.0	77	22.5	50½	5.75	25½	2.57	17	1.36	12½
	Sec.	76.5	72	20.0	47½	5.1	24	2.3	16	1.23	11½
EF91	Pri.	100.0	83	26.0	54½	6.65	27½	2.96	18	1.58	13½
	Sec.	80.0	74	20.0	47½	5.38	24½	2.4	16½	1.28	12
EL91	Pri.	94.0	80	24.5	53	6.25	26½	2.8	17½	1.48	12½
	Sec.	80.0	79	23.4	51½	5.97	26	2.67	17½	1.42	12½

Spacing between Windings (S) 3/16" 5/16" 3/8" 1/2" 1/4"

Table 1.
(T = Number of Turns)

(iii.) Or treat it the same way as an over-coupled i.f. transformer, i.e. connect resistors across primary and secondary (say 50,000 ohms) so as to reduce the coupling below critical and then adjust C1 and C2 for maximum response in the middle of the band. Remember to remove the damping resistors when finished.

VALVES SUITABLE FOR FREQUENCY MULTIPLIERS

There are two conflicting requirements for multiplier operation when wide-band characteristics are desired. In the first place the valve should have low input and output capacities so that

high LC ratios can be realised, whilst secondly a high mutual conductance is desirable for efficient production of harmonics without large grid driving voltages.

In Table 2 the characteristics of a number of suitable valves (in the 6.3v. heater range) are given, and it will be seen that the types most nearly meeting the above requirements are—

6F14, 6F91, 6F13, 6F12
6AM6, 6F50, and 6AU6

To improve performance it is permissible to operate the valve with a higher anode voltage and limit the anode dissipation by reducing the screen grid voltage.

Valve	CV No.	Anode Volts	Screen Grid Volts	gm Ma/V.	C. (in) pF.	C. (out) pF.	Anode Dissip'n (Watts)	Heater Current (Amp.)
6AG7	1882	300	300	11.0	13.0	7.5	9.0	0.65
6AM6		300	300	7.5	7.5	3.2	3.0	0.3
6AQ5	1862	250	250	6.1	7.6	6.0	12.0	0.45
6AU6	2524	300	150	5.2	5.5	5.0	3.0	0.3
6BW6		350	310	4.0	8.5	7.5	13.2	0.45
6CH6		275	275	14.0	14.0	5.0	12.0	0.75
6F12	138	250	250	7.5	9.0	4.6	2.5	0.3
6F13	1839	250	250	9.0	11.0	5.9	3.5	0.35
6F14	1919	250	250	10.6	10.8	8.3	4.0	0.35
6SG7	1978	300	200	4.0	8.5	7.0	3.0	0.3
6SH7	594	250	150	4.9	8.5	7.0	3.0	0.3
6V6	810	300	285	4.0	10.0	11.0	12.0	0.45
6F50	1091	250	250	6.5	8.3	5.2	3.0	0.3
6F91		250	250	7.5	7.0	2.0	2.5	0.3
6EL91		250	250	2.8	4.2	3.2	4.0	0.2

Table 2.

STABILIZING THAT I.F. CHANNEL

Some years ago I was troubled with instability in a receiver I was building and in spite of thorough decoupling it refused to be tamed.

In discussing this with George Neilson, one of our most experienced receiver men in the VK3 Division, he gave me two hints which corrected the receiver instability and which, in wiring other receivers, broadcast as well as Amateur, has saved me hours of searching for causes of instability. It is simply a precaution to be taken in wiring and although some readers will say they would watch it naturally, the majority I'm sure will be like me—they didn't think of it until it was pointed out.

It concerns the a.v.c. line. The most common practice these days is to use one diode for a.v.c. and the other diode for rectification and audio output. When this is done a condenser of 50-100 pF. is connected between the last i.f. amplifier plate and the a.v.c. diode. From that point a load resistor connects either to ground or to a small fixed negative bias, and the other resistor connects to the a.v.c. line as a decoupler; note that word decoupler, and cast your mind back; just whereabouts along the a.v.c. line did you place it, the last time you wired a receiver?

It was pointed out to me this way. The plate of the last i.f. valve is the hottest point in the receiver. It has the full lift of the i.f. stage, the stage with the greatest gain in the receiver, and therefore the lead to the primary winding on the i.f. transformer, the coupling through the condenser to the diode, and any leads to the two resistors going to the a.v.c. line and earth, are hot.

The remedy is simple, firstly tuck the condenser well away from other wiring, particularly the grid lead to the i.f. stage, keep the leads short, and then mount the two resistors mentioned previously right at the diode pin. They act as r.f. chokes and the a.v.c. line will be cold from the resistors on.

In my case there was a 2" lead from the diode pin to the decoupling resistor on the a.v.c. line. This hot section of a.v.c. line was 1½" from the grid lead of the i.f. amplifier. Feedback occurred until these leads were moved 2½" apart.

A further precaution would be to run the a.v.c. line in shielded wire, although I have found that this is not necessary if the previously mentioned precautions have been carried out.

The second hint concerned b.c. sets mostly. In this case it was found that there was a certain critical length of aerial lead where the converter stage would oscillate. The reason is that strong capacities in the aerial lead and the high impedance aerial primary winding resonate in the i.f. range. This can be cured by connecting a small capacity across the winding to resonate it below the i.f. frequency.—VK3VZ.

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Station ..

Address ..

REMEMBRANCE DAY CONTEST, 1953

The Remembrance Day Contest is an Australian annual contest to perpetuate the memory of those Australian Amateurs who gave their lives for their country during World War II. It is held on the week-end nearest to the 15th August in each year, the date on which the hostilities ceased in the S.W.P.A.

A handsome Perpetual Trophy is awarded annually for competition between States, inscribed with the names of those who made the supreme sacrifice, and so perpetuating their memory throughout Amateur Radio in Australia. The name of the winning State each year is also inscribed on the Trophy.

Low Drift Crystals FOR AMATEUR BANDS

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CANTERBURY, E.7,
VICTORIA

RULES

1. The Contest will commence at 1800 hours E.A.S.T. on 15th August and continue through until 1759 hours on the 16th August.

2. The Contest is open to all Australian Amateurs, but only members of the W.I.A. are eligible for the awards.

3. The Contest is an open event—c.w., phone, or a combination of both may be used.

4. The Contest is an Interstate Contest, and Amateurs in each State will endeavour to contact Amateurs in all other States.

5. A station may be operated by more than one operator under his own call sign, provided each operator enters a separate log.

6. All existing Amateur bands may be used, and all transmissions must conform with the Regulations as laid down in the P.M.G.'s "Handbook for the Guidance of Operators of Amateur Wireless Stations." Any breaches of these will lead to the disqualification of the operator concerned.

7. The arrangements of schedules for contacts on other bands will not be permitted.

8. All stations entering the Contest will call "CQ RD" if using c.w., and "CQ Remembrance Day" if using phone.

9. A State competing for the Trophy must submit a minimum of six (6) logs from financial members before becoming eligible for contesting the Trophy.

10. Only one contact per station per band is permitted.

11. Serial numbers to be exchanged during the Contest will be as follows:—

(a) For c.w. the first three figures will be the RST (telephony) report, followed by the serial number of the contact commencing with any number between 001 and 100 for the first contact and increasing in value by one (1) for each successive contact. If any contestant reaches 999 he will then commence 001 and continue 002, 003, 004, etc.

(b) For phone the first two figures will be the RS (telephony) report, followed by the serial number of the contact commencing with any number between 001 and 100 for the first contact and increasing in value by one (1) for each successive contact. If any contestant reaches 999, he will then commence 001 and continue 002, 003, 004, etc.

A complete exchange of serial numbers must take place before any points may be claimed for the contact.

SCORING

12. In order that an equitable distribution of points for States with a large number of contestants compared with a State with fewer contestants may be determined, a sliding scale of points has been allotted as shown in the scoring table appended.

13. In addition to the points in the scoring table that may be scored by a contestant, a bonus of 25 points may be added to the total score for each State worked on 50 Mc. or above.

LOGS

14. The log submitted must show in the following order: Date, time, band,

emission, call sign, RST/No. sent, RST/No. received, points claimed. No log will be accepted unless laid out in this order.

15. A statement signed by the operator must be attached at the conclusion of the log stating that the Regulations (Rule 6) and these Rules have been observed. Any logs departing from this form will automatically be disqualified.

16. All logs must be forwarded through the Contestant's Divisional Council (for membership checking) to reach the Federal Contest Committee, Box 1734, G.P.O., Sydney, on or before 12th September, 1953.

AWARDS

17. Attractive certificates will be awarded to the first, second and third highest in each State, there will be no outright winner for Australia. Where a large number of logs are received from any one State, further certificates may be awarded at the discretion of the Contest Committee.

TROPHY

18. The State to which the Perpetual Trophy will be awarded shall be determined as follows:—

To the average of the top six (6) logs shall be added a bonus arrived at by multiplying this average by the ratio of valid logs submitted by that State to the total of Amateur Licensees in the Division at the time of the Contest.

Example: Total points equals—

Aver. Score $\left\{ \begin{array}{l} \text{No. of Logs} \\ 1 \text{ plus } \frac{\text{No. of Licensees}}{\text{In Division}} \end{array} \right\}$

19. The logs which will be accepted for the multiplier under Rule 18 shall show at least (5) contacts in the Contest.

20. The Trophy shall be forwarded to the winning State in its container and will be held by that State for a period of twelve (12) months when the winner for the succeeding year is determined.

21. The Federal Contest Committee shall be the sole adjudicators and their ruling will be binding in the case of any dispute.

SCORING TABLE

		To							
		VK2	VK3	VK4	VK5	VK6	VK7	VK9	Total
From	VK2	-	1	2	3	4	5	6	21
	VK3	1	-	3	4	5	6	7	21
	VK4	1	2	-	4	5	6	8	21
	VK5	2	1	3	-	5	4	6	21
	VK6	1	2	4	3	-	5	6	21
	VK7	2	1	4	3	5	-	6	21
	VK9	1	2	3	4	5	6	-	21

Note.—Read the table from left to right for points for the various States.

Examples:—

VK2 scores	1	point	for	a	VK3	contact
2	"	"	"	"	VK4	"
3	"	"	"	"	VK5	"
VK6 scores	1	"	"	"	VK2	"
2	"	"	"	"	VK3	"
4	"	"	"	"	VK4	"

TECHNICIAN CONCERN

The opinions expressed in these letters are the individual opinions of the writer, and do not necessarily coincide with those of the publishers.

9 Explanade, Bellevue, Tex.

Editor "A.R." Dear Sir,

Being the Delegate of one of the Divisions who was the medium by which authorized P.E. to make representations to the P.M.G. Dept. which resulted in the granting of the Technicians Licences, I would like to reply to Mr. Trebilcock's letter in June, 1953.

If Mr. Trebilcock had taken the trouble to familiarise himself with all aspects, I think he would not have written the letter. There are not many hams in Australia who are more keen to see Morse Code used to the utmost than myself, and not many new who have been licensed at the same time as I, but I am not so bigotted that I cannot see that Amateur Radio would benefit from the activities of advanced technicians who are interested in v.h.f. and u.h.f. operation, where phone is used almost exclusively, and who feel that they cannot spare the time necessary to master the Morse Code. The question is that they cannot master the code does not arise.

These men will be valuable additions to our ranks, and perhaps in the future may become so keen on Amateur Radio that they may try to find the time to learn the code so that they may use bands other than the v.h.f. and u.h.f. to which they are restricted.

I am sure that Mr. Trebilcock will agree that the code cannot be mastered by anyone, much less a baboon, in just a few hours.

—BOB O'MAY, VKTOM,
Fed. Counsellor for VKI

"Oakleigh," Yerrinbool, N.S.W.

Editor "A.R." Dear Sir,

Having read in the June issue of "Amateur Radio" a letter referring to the announcement that the W.I.A. was happy to announce that Technicians Licences were to be issued to various persons, I re-read the letter and believe me to the matter on page 13 of the May issue, and as a member of the W.I.A. should like to voice my disapproval of such a step.

It is not a secret that the W.I.A. can no longer master the Morse Code. It is sadly lacking in both ability and will to learn, for even my dog will respond to various long and short whistles! It is not a fact that the correct modulation of radio frequency signal is a far more complex procedure than the ability to make and break a circuit without "chirp" or "clicks." Why then, allow these persons this privilege when they lack the ability to master such a simple arrangement of "dots and dashes"?

I was once approached by an individual who was, most probably, too lazy to attempt the Morse Code, and asked if I would, for a fee, attempt the A.O.C.P. examination using his name. Now, I have no doubt that there are many others of this type who will be allowed to join the ranks of "Amateurs," should this type of thing be allowed. I believe that there was once a time when it was necessary to prove to the licensing authorities that one had mastered a transmission and reception before one was allowed a phone permit.

I should also like to make one comment on the proposed Novice Licences: Do not our limited bands contain enough "bushy" communications now from A.O.C.P. holders, without inviting a far larger percentage from people with even less technical knowledge and ability?

I feel that rather than allow a decline in the standard required to obtain the A.O.C.P., the standard should be raised, in view of such modernity as f.m., t.v. and pulse.

—RONALD F. HAMBRIDGE, VKERR,
Assoc. I.R.E., Fellow B.I.R.

4th June, 1953

Editor "A.R." Dear Sir,

The observations made by your correspondent, Mr. Trebilcock in the June issue require some comment if only to clarify the position. It is not the intention to the use of Morse Code in communication services, Amateur or otherwise.

Before proceeding, however, I must acknowledge Mr. Trebilcock's interest in and association with Amateur Radio over many years. Secondly, I must clarify my own position relative to Morse Code by stating that I use it fre-

quently, not so much because I like it, but because circumstances demand it. A keen observer will notice that there appears to be a decreasing interest in Amateur Radio and the average age of Amateurs is increasing.

My own observations justify the belief that the younger generation are not greatly interested as they were in the late 20's and early 30's. Least are they interested in Morse Code as a means of communication. This state of affairs exists in spite of the large number of massed produced operators and technicians in our midst after World War II.

The position to which Morse Code has been relegated I think is purely evolutionary and is confirmed by the declining use of it by the Armed Forces, Civil Aviation and the Post Office. Morse has been replaced by more speedy automatic systems and telephony.

Men with suitable technical qualifications must be admitted into the Amateur ranks, they are badly needed and can contribute much to the progress of our hobby. We cannot afford to be smug about Morse Code which will, of necessity, have its place in communication service for some time to come.

—N. D. CARPENTER, VKKX.

107 Templeton St., Wangaratta.

Editor "A.R." Dear Sir,

In June issue of "A.R." under the heading "Correspondence," Mr. W. Trebilcock asked if any other reader would care to comment on the subject of "Licences for persons who cannot master the Morse Code."

After reading Peter's letter, I felt that I would like to comment on the above subject. I have held my A.O.C.P. for the past 15 years, but in 1948 I lost the use of my right hand and wrist (rheumatoid-arthritis) and therefore could no longer manage the Morse key; not that I ever had much time for the code as I have always found audio much more interesting.

There may be others keenly interested in radio who suffer from some disability which prevents them from mastering the code and therefore that the A.O.C.P. should not believe for the P.M.G.'s Dept. to make allowances for these cases. However, there are some who are in excellent health and physical condition who just cannot master the code, possibly for the same reason as that which prevents some people from mastering a musical instrument even though they practice hard enough, and for one see no reason why these keen radio enthusiasts are not allowed to enjoy their hobby in the same way as we.

I agree with Eric that there are plenty of individuals with and without "tickets" who have no interest in Morse Code, but I personally think that those who like it should be allowed to have it and those who don't like it should not have it forced upon them.

Eric's opinion is entirely wrong when he states that there are some hams who have no right to call themselves Amateur Radio Operators, for after all there are many telegraphists in the world who know nothing about radio operating. As far as I'm concerned, I now prefer to leave the dots and dashes to reader and thoroughly enjoy my Ham Radio using phone, so why shouldn't others if they so desire.

—HOWARD G. WOHLERS, VKTY.

— . . . —

AMATEUR BANDS AVAILABLE

Owing to the ambiguity of the copy supplied, the 14 and 21 Mc. bands were listed incorrectly as temporary allocations on page 13 of the last issue. The corrected frequencies allotted to Amateurs are as follows:—

*1.84—1.86 Mc.	1288—296 Mc.
3.5—3.8 "	1776—585 "
7—7.15 "	1,215—1,300 "
14—14.35 "	2,300—2,450 "
21—21.45 "	5,850—5,850 "
26.96—27.23 "	10,000—10,000 "
28—30 "	21,000—32,000 "
50—54 "	130,000 Mc. and
144—148 "	Above.

*Available for emergency network purposes only. Normal Amateur activities are not permitted in this band.
†Temporary allocations.

AMATEUR CALL SIGNS

FOR THE MONTH OF MAY, 1953

ADDITIONS

- New South Wales**
 2AII—F. T. Barrett, 53 Cleveland St., Enfield.
 2AOI—A. G. Pearce, 25 Noble St., Concord.
 2AQ—L. K. Turner, "Kingsford," R.M.B. 618, Cootamundra.
 2ARI—H. H. Roach, 34 Mount St., North Sydney.
 2ATT—T. W. Thatcher, 31 Stanmore St., Stanmore.
Victoria
 2AEH—E. J. Blackney, Station: Townsend Rd., Whittington, Geelong; Postal: Whittington Post Office, Geelong.
 2AFE—F. E. Albin, 10 Waverley Rd., East Malvern.
 2AKJ—J. R. Battick, c/o Mrs. Greenaway, Union St., Werriam.
 2AMO—M. S. Lang, c/o 214 Brunswick Rd., Brunswick West.
 2ANQ—B. Diddings, 8 Nelson St., Warrnambool.
 2AWZ—W. M. Zimmar, 20 Skene St., New Town, Geelong.
Queensland
 4UE—J. G. Maciver, 21 Hurd Terrace, Morning-side, Brisbane.

South Australia

- 5NR—L. K. Nene, 17 High St., Broadview.
 5RI—M. N. Gebhardt, Station: Mount Bryan; Postal: P.O. Box 19, Mount Bryan.

Western Australia

- 5KJ—B. H. Goss, Station: Lot 58, Wabersfield Crs., Albany; Postal: c/o A. K. Collins, Sterling Terrace, Albany.

Tasmania

- 7BR—H. J. Bracken, 41 Explanade, Queenstown.
 7PJ—F. A. Jones, "Brookside," 10 Main Rd., Moonah.
 7PM—P. D. Mulligan, Kila.
 7SK—M. D. L. Sheddington, 534 Mt. Nelson Rd., Mt. Nelson, Hobart.

ALTERATIONS

- New South Wales**
 2AC—33 Pitt Street, Sydney.
 2AD—River Street, Macquarie.
 2AF—40 Augustus Street, Plandout.
 2AG—6 Arunta Street, Marrabundah, A.C.T.
 2MH—23 Iremay Avenue, Homebush.
 2QP—Station: 531 Punchbowl Rd., Punchbowl; Postal: 714, Hoxton Bay.
 2AGX—18 Matthew Street, Punchbowl.
 2AYH—4 Kembla Avenue, Chester Hill.

Victoria

- 2NW—5 The Grove, South Camberwell.
 2QD—53 Mountain View Road, North Balwyn.
 2JVE—53 Mountain View Road, North Balwyn.
 2KI—60 Tennyson Street, Moraine via Geelong.
 2ZA—49 Lytton Street, Glenroy.
 2ABX—45 Bridge Street, Denalia.
 2ACW—Airport, Mangalore.
 2AKJ—19 Kara Street, Frankston.
 2AMR—Flat 1, 8 Lewes Drive, East Malvern.
 2ATX—35 Lewisham Road, Windsor.
 2ANW—Porable, 5 The Grove, South Camberwell.

- 2AZO—c/o Mornington Hotel, 36 St. George's Road, North Melbourne.

Queensland

- 4EW—33 Vovies Street, Red Hill.

South Australia

- 5EC—B.C.A. Flying Medical Service, Ceduna.
 5KJ—Adelaide Street, Adelaide.
 5NW—Shepherds Hill Road, Eden Hills.
 5GX—8 Glenunga Avenue, Glenunga.
 5SR—21 Meredith Street, Broadview.

- 6SR—4th Street, Bluff Point, Geraldton.

Tasmania

- Victoria: VKs JLV, SVK, JAHF.
 South Australia: VKFPA.
 Tasmania: VKKML (now operating under VK3AMO).

ERRATUM

- VKZU's correct address is Brook St., Eureka.

ERRATUM IN BC348 RECEIVER ARTICLE

In the article last month on the Double Conversion of a BC348 Receiver, an error is evident in the third paragraph, 9th line. This should read: "the second i.f. tube 6BY, and not 6K7."

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1632-3H	220-220-230-240	300	80	2 x 6.3v-3a; 5v-3a	42/6
1632-3H	220-220-230-240	300	120	2 x 6.3v-3a; 5v-3a	53/3
1636-3H	220-220-230-240	450	120	5v-3a; 2.5v-5a; 6.3v-4a	70/-
1630-3H	220-220-230-240	450	200	2 x 6.3v-3a; 5v-3a	85/-
1671-8	220-220-230-240	500-600-750	300		150/-
1400-18	220-220-230-240	850-1000			110/-
1643-23	200 or 230 or 240	565-500-425	200	2 x 6.3v-3a; 2 x 2.5v-5a; 5v-3a	17/6
1630-31	200-220-240	—	—	6.3v Tap 5v-3a (500v insul.)	47/6
1636-32	200-220-230-240	—	—	2.5v-10a (1000v insul.)	75/-
				2.5v-10a (3000v insul.)	

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973-9	30	30	90	270	800	22/6
973-21	30	30	90	270	800	22/6
1012-1A	35	30	130	430	1000	28/3
107-1A	35	30	150	350	1000	44/-
106-1A	30	30	200	180	1000	57/9
1011-1A	30	15	350	160	1000	20/6
1023-1A	35	30/3	30/200	80	1000	62/6
200-1A	15	10		60	1000	62/6

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FIFTY MEGACYCLES AND ABOVE

NEW SOUTH WALES

Very little news and activity on the 30 Mc band and only a few stations have been heard. The highlight this month was the one hour scramble on 144 Mc. held on Wednesday, 27th May. This as usual was a success, there being twenty-one stations active. The winner was Harry 2AJZ with a score of 30 contacts, next came 3QZ with 18. The band was really alive. Results were given both on 8 and 2 mhz by 2AJZ and 2WJ within half an hour of the finishing time and was again reported from 2WI on the usual Sunday broadcast.

During the last few weeks a search party has been organized by the Scouting fraternity. The V.H.F. Division of the W.L.A. stepped into the breach and has been very successful in its operations. The parties are searching on behalf of the Civil Aviation Dept. for a special unit of a D4 aircraft—communications headquarters—lost between Casmock and Wyrong. This tower by the way is 80 feet high, with a very nice shack on top. The search area is 24 square miles, it is a Ham's dream! The search area is 24 square miles of heavily wooded, precipitious country. Horrie HILL and Cesa Cronan are the Control Party. The search party is made up of 100 people participating. Most of the gear is operating on 144 Mc. We might say that Horrie has put a lot of money into this project, not forgetting Cesa Cronan's staff.

ZEI has completed his new converter. Pleased to hear 5IV back on 144 Mc., also 1GA. Had a contact with 2AZK/P on Monday, 20th, with a very nice signal. 2FD has appeared also on this band, S9 signal. 2ABU will be on 144 soon. Keep a look for him. 2ACT has been in Sydney again and visited a few shacks. The Newcastle gang have been heard chatting among themselves. A noteworthy arrival on the 144 Mc. band is 2G Maurice Myers, O.B.E. Maurice had 874 822 set-up and a super regen rx, but will build something bigger later on. Welcome Maurice

To Mr. Eric Harold Cox, RCU (Arch), of Canberra, go the heartiest congratulations of all the V.h.f. Group in recognition of his high Coronation honour of the O.B.E. Arch was honoured for outstanding contributions to journalism in Australia.

There is an award on 144 Mc. for 100 contacts, so go to it fellows and send out those cards. If you have none, then a piece of cardboard or post card will do, suitably inscribed. Why are these cards so hard to get back? Has your name gone?

C.D.E.N. News.—A number of zone stations are holding regular practices on 144 Mc, which seem to be improving operating techniques considerably. However, there is a lot of room for improvement. Another large scale practice is looming.

3QW Grafton was heard in Casino by 2ADZ at good strength. 1ANF Sydney has worked 2JW Orange, both ways. To Ted Howard we offer our deepest sympathy. Ted lost his wife, Joan, on 12/10/78. He was 59 years now. It was pleasing to hear XXX on the band again after a long spell off. XXX will be back on 144 Mc. soon. ZVL has put a lot of work into the 144 Mc. band and will be back soon. 2HR also re-building portable gear. 2SB has been logged here at 59 with a new multi-element beam. wait till he puts it up a hill. Rix, ex-VK1ATZ sends his love to all his friends and says he will be back in 2015 and operates on 144 Mc. on 7.5 w. also on 20 mx.

Two staves were set up on Mt. Jibbarat, one at the base camp operated by SAJO, and one in the car, which was parked at the top of the mountain. The two stations were 10 miles apart. The two stations were about a quarter of a mile apart, one at 5,600 feet and the other at 2,700 feet. The stations were connected by a 100-watt input. Three element close-spaced beams were used, using folded dipole and fed with co-axial and braid cables. The stations were connected into a No. 18 and one into a Command 47 Mc An AT3 was used on 30 and 40 mks to see up skeds for 3 mks. The 30 mks was used for 10 mks. The 40 mks was used for 10 mks in the car off a 13 volt system. Four 6 volt batteries and two 12 volt batteries in conjunction with a 100-watt input were used to power the transmitters. Although we had night skeds with 2WN (Forbes) and SAJO (Coolman), we did not hear either, but we heard 2WN and SAJO. The stations were worked, and nearly all were heard.

The results of the Autumn Field Day are as follows: 1st, 2ANF/M (Mt. Tomar), with 1,625 points; 2ATO (Mt. Piddington) 758 pts.; 3rd JW (Mt. Cannoballa), 740 pts. An excellent effort by all 2ANF had three contacts of 100 miles distance. Other scores as follows: 2ARB (Mt. Blackback), 730; 4TH 618.

2APQ 200, 30A/M 137. Although 31 stations were operating, only nine logs were submitted. 2ABR, with 100 contacts, did submit a log. We thank Bill for that effort. 2ABR, 2ATO and 2JW all had one contact over 100 miles. We must say that the operating ability was very good, and the gear used out mobile must have been excellent to have produced such fine results. A very good day was had by all; when is the next one?—3HO.

VICTORIA

The May W.H.I. meeting commenced with a lecture by Mr. Andy Morrison, of the P.M.G.'s Research Section dealing with the propagation test project on Mt. Mi. At present being carried out between Tasmania and Victoria. The object of the investigation is to determine how often signals may be received across Bass Strait. This has a practical application for example it would indicate whether significant interference is to be expected between a possible Victorian to Sydney and Tasmanian to Sydney telephone link both operating in the same band of frequencies.

In the selection of equipment for the project it was necessary to ensure, among other things, reliability for continuous running 24 hours of the day, high frequency stability both in tx and rx, high sensitivity of rx, means of automatic identification in the rx of the transmitted signal on break-throughs, and continuous automatic recording of rx output.

Briefly, the gear is as follows: T_x-15w, output from a QEQD/40 on the operating frequency. To provide the identification signal, it is frequency modulated with 10 Kc. using a resistance coupled phase shift oscillator, T_x-16. It is a double conversion f.m. superheter with a 5AK5 r.f. stage. The first i.f. is 39.4 Mc. and the second is 3 Mc. A 10 Kc. filter is incorporated in the audio section. The rx has a noise factor of approximately 6 db and the recording equipment will respond to a signal of less than 0.1 microvolt.

Locations and Antenna—The tx is half way up Mt Arthur near Launceston at 1,700 ft above sea level and the receiving station is at Saraceningham not more than 40 ft above sea level. The antenna is a vertical mast about 100 ft high with a gain of 8 to 9 db. Since the beginning of the year until 19th May there have been between 2 to separate break-throughs, each of greater than 100 Mc. The first break-through occurred on which a recordable signal was received was 240 hours. During the period covering the occasion of our 144 Mc break-through to the Launceston chapel on the 24th February the signal was not heard for 24 hours. The signal continued and remained for a long period.

A point brought out by the lecturer was that when ducting effects are present, a station may on 144 Mc located near sea level may encounter higher signal strengths over long distances than one which is on a comparatively high position working over similar distances.

Mr Morrison made a tentative suggestion for a 20 to 31 db gain beam suitable for the v.h.f. where a fixed direction is involved. It consists of three stacked rhombics spaced a half wavelength apart, and 16 wavelengths per leg and tilt angle (i.e. half the obtuse angle) 72 degrees.

Many questions were directed at Mr. Morrison and at the conclusion he was warmly thanked for his interesting lecture. We are pleased to say that he is a member of the Victorian Division of the Institute.

In continuing the meeting the chairman, Herbert Slevens, called on the v.h.f. contest committee to announce the results of the field day amateur test. In the transmitting section, Eric SZL, of Ballarat, 1,567 points, gained 1st prize, and in the receiving section, Alan JUI, of Tatura, with 3763 valves, was won by Alan JUI of Tatura with 1013 pts. Frank Seiber of Preston, gained 2nd prize in this section. The v.h.f. test, for the 1st prize, was passed for the outstanding work of both of them on the v.h.f. bands and have done for many years. Jim 2AJG tendered his resignation as V.h.f. Group Secretary due to a shift in location. He was thanked for his assistance.

On the 10th, I went to Ken 2AFJ for notes on the 9th. We band New calls on this band are 3QO, 2ALH and 2AAP. 2ED has heard signals from 3QO, 2AFJ and 2ALK, but so far has not been heard in the Ashburton area. 2AAP has had a signal from 3QO. 2ATK and 2FO nearly ready to come on. Gerry Lane in Tunstall has heard 3QO, 2AFJ, 3QO, 2ALK and 2AFJ. He claims he got the reception on foggy nights. 2HAF has clearance for the day, but is delayed in getting working portable on Mt. Dandenong on Corporation Day worked 3QO (18 1/2 miles) and 2AAJ (13 1/2 miles), signals being 200 both ways.

On 6 mx JVL and 3DI are again active from Leongatha. JAYJ on Mt. Dandenong heard 3DI of Horsham 8B 84 when in contact with 32I on 30th May. 3UI at Tatura comes on at 5 p.m. Saturday evenings beaming towards Melbourne. The Moorabbin Radio Club hold a hook-up on Thursday evenings. There was a good opening to VK4 on 31st May when 3ID worked 4CB and 4BG and heard 4BT.

Eric Giddings of Warrnambool who has been a keen v.h.f. listener for some time has now succeeded in getting his A.O.C.P. and his brand new call sign is 3ANQ. With 3EQ he will be working on 2 mhz and watching for break-throughs to the Melbourne area.—JABA

SOUTH AUSTRALIA

SHD is using v.p. on 288 Mc. Incidentally there is much activity on 288 Mc and a great deal of it is in the field. Contacts have been made from high to low places, over short distances and long distances, and using a great variety of equipment, some very complex and controlled tx's and rx's, some just a pair of RL8's doing double service.

[illegible]

According to Ray 5BT there is a move to stabilise signals on 228 Mc. with m.o.p.a. which is a sound idea considering the number of multipliers needed to get a 74X signal c.w., and since almost all on 1 mhz are using beams, the old bug-beer of regen interference seems to be considerably reduced. SRV has his new QTH at Clearview amidst the v.h.f. giants so should soon be one of the inspired agents IPU, another Woodville enthusiast, will soon "light up" the 570 Mc band and even the 121 Mc band! An official welcome OM.

Portable activity has produced calls of Wren SFD, Ron SFP, and SMH from the roosts on 1 m. whilst Clem SGL and Ken SKC have been mobilising on 6 m to advantage. Clem is using 1/4 watt input to a 636 neutralised final and his usual xtal converter feeding the car set. His SMS uses a masterly constructed 6 m tx-rx combination with a tunable coil, a 6 m xtal, a super regen detector, The final in the tx is that tube again, the SMS, which is good up to about 80 Mc

Clam's laurels carried many pearls, and were given with the view to encourage the budding v.h.f. enthusiasts and judges. The audience was a vast variety of silence that the audience gave him during his lecture, it went over well. Both he and Mac brought along gear and had to answer many questions. The information was dispensed with a flourish.

Here are a few points: (1) Equipment; a well known brand of resistors are wire wound but low in value and need up to 100 watts. (2) Inductors should not be $\frac{1}{2}$ inch new line of condensers with metallised paper are small and non inductive and good to 100 Mc.; after that use mica die type. (3) Oscillators; a 100 Mc. oscillator can be used as a v.h.f. oscillator and overtones activity can be checked by using a grid dip oscillator—only the odd overtones can be used as the even ones are not in phase. (4) Don't use split-stair tuning when tripling on v.h.f.

On 144 Mc Ross SAJ listens each evening to 1930 hours as a reminder that he will answer calls if somebody will only live up that barometer. Reg SQR is still attending the "nut factory" and is awaiting for exams, whilst SRP is in building. House or gear Ken? At our D.H.A. in Adelaide I was introduced to SFR ex-IFR. Ken to you—who has come to reside in this city of beams and churches. Who's got that new tower in Fisher Street? Who's been squinting mx signals across the Gulf? I can answer the first—perhaps you can answer the second.

Nothing to report from the Murray Valley or the South East and since our indigenous sub-editor has to pinch my thunder with v.h. notes from them to fill in between his padding, I'll bid you all adieu. I can't afford to fa out with the President!

Here's one for EPS to put in his pipe. For further information and one of the best summaries on v.h.f. and u.h.f. antennae see December and Jan. issues of "Radio and Television News." I took six pages of notes and diagrams.—BX

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	ohm line
2-500	" "
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2-500	" "
200-25,000	" "
500-25,000	" "
40-200	" "
50-500	" "

12/6

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RY VK7RK*

The month of May seems to have hit a new low for my correspondents and, were it not for my "trusty few" this page would shrink to a mere 1/4 of its former size. It's just going through a winter of conditions, theoretically at any rate, as bad as possible, so survive the winter. I have no doubt that the people who attend to the "light" art will rise on the crest of the wave. Notwithstanding all this, on the infrequent occasions that the bands are available, I have been able to get a few available and quite a few calls listed this month would only a very few years ago, have produced a page probably twice as long. I have had good, when you can call, average a phone every week, but just because you have worked a station before doesn't mean he is not new to the band. I have been able to get a few calls to the Wa when ZKI or the FKs open up.

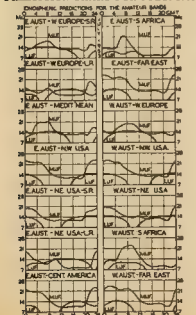
KV4AA, in his DX column in "CQ," suggests that, in view of the difficulty now in obtaining W.A.Z., brought about by the almost impossibility of QSOs in Zones 16-17-18-19 is to add a third stick of DX achievement in addition to the two already suggested. He suggests allot one point for each country and one point for each zone on each of the five major DX bands. Dick suggests the initial award at 300 points to be entitled the C.Z. ZONE AWARD. The country ZONE AWARD with additional certificates at A.B.C.Z. 500, etc. This scheme seems to me to have possibilities, mainly in that it encourages all band operation and that there is always a goal ahead. Should anyone wish to comment, he would be happy to pass it on to KV4AA.

Now for a few doings—3.5 Mc: ZKIDG has provided an interest here, being heard by BERS106 who also logged VR3CG and Wams SAHN also worked VK1AF on this band, so Macquarie Island seems to be an all band affair now. We are available here on occasional nights but a high noise level and the added possibility of h.o.i. precludes much chasing.

7 Mc. has not altered very much. W, VE, KH6, KG8 and an occasional KL7 are at good strength most evenings, in fact the Ws are there during most of the late afternoon. A few Europeans around 0700s but they are not so easy to work. The main Europeans on this band seem to be around 2100s and even though their signals are good then, they present some difficulty to QSO owing to other European QRMs.

* 5 Galvin Street, Launceston, Tasmania.

PREDICTION CHART FOR JULY, 1953



An occasional North African at good strength was heard also at this time.

[illegible]

BAHW worked KV4AA at 0300z; also W0WNI/
VOI and the usual W. 2A0U erecting quite
an antenna farm to keep tag on the globe and
the moon. 2A0U, 2A0N, 2A0V, 2A0W, 2A0X,
2A0Y, 2A0Z, 2A1A, 2A1B, 2A1C, 2A1D, 2A1E,
2A1F, 2A1G, 2A1H, 2A1I, 2A1J, 2A1K, 2A1L,
2A1M, 2A1N, 2A1O, 2A1P, 2A1Q, 2A1R, 2A1S,
2A1T, 2A1U, 2A1V, 2A1W, 2A1X, 2A1Y, 2A1Z,
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2A5S, 2A5T, 2A5U, 2A5V, 2A5W, 2A5X, 2A5Y,
2A5Z, 2A6

SI Me. has lost one of its most ardent supporters in the person of Walter SAUW, who has decided to return to G. land. I also lose a valued contributor as he was well up in the scoring on this band. Only last month he was lecturing on the frontiers worked including W.A.C. Let's hope that when the Bureau breaks the spring, ex-SAUW will be among the first worked DX signals very few here and apart from some SW VKs and ZIs the only other station heard was HPSFL. The solitary candidate for the title of "most interesting" was also a very nice signal from HPSFL as does SAOU who also heard HPIPH and JAIDM.

28 Mc. has only one starter for my book and in between times of 50 Mc. operation, Les managed to work on phone Ws GJLF, GIWJ, GKSX, GDFB, SIJO, KHSAPS, KHAM, XEWE. From various zone notes, some random jottings of DX working are also gleaned. Couldn't we have it all on one page boys?

Q84s have reached the mail boxes of only two contributors this month. SAHH pulled out a copy of the 1946-50 edition of the ZC4F. JY1RT, H51VL, ODSAB, while BERNIS pulled out CRBAH, V81VR, KGGAAY, KLTF, KXBAJ, V81AS, V83CN, ZELP, WNTVR5, ZC3VS, and ZC3VW. The other three contributors were Eric's first Novice Q84, the ZC3 came down and the FBI, which came via R.E.F.-W.I.A., was fully filled in by the top of the 1946-50 expedition. The expedition made a total of 318 countries out of 236 heard.

Further to the remarks last month re the "Pacific Islands Monthly Net" and by courtesy of SAHH, I have received a copy of the "P.I.M." is a monthly publication by and for the islands people and has as its radio editor, James Sherrill, who has held several calls in the past. I will be sure to keep you posted. ZL came. Currently a ZL, he imports much useful information much as dope on ZK1BG and ZL1VZ. ZL1VZ is a group of ZLs. ZK1BH is Trevor Nixon. ZK1AB is Doug, a local Radio Spot, of Cook Island. Licensed F8 stations are F8AB, AC, AD, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AR, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, BS, BT, BU, BV, BW, BX, BY, BZ, CA, CB, CC, CD, CE, CF, CG, CH, CI, CJ, CK, CL, CM, CN, CO, CP, CQ, CR, CS, CT, CU, CV, CW, CX, CY, CZ, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, DK, DL, DM, DN, DO, DP, DQ, DR, DS, DT, DU, DV, DW, DX, DY, DZ, EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ, FA, FB, FC, FD, FE, FF, FG, FH, FI, FJ, FK, FL, FM, FN, FO, FP, FQ, FR, FS, FT, FU, FV, FW, FX, FY, FZ, GA, GB, GC, GD, GE, GF, GG, GH, GI, GJ, GK, GL, GM, GN, GO, GP, GQ, GR, GS, GT, GU, GV, GW, GX, GY, GZ, HA, HB, HC, HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN, HO, HP, HQ, HR, HS, HT, HU, HV, HW, HX, HY, HZ, IA, IB, IC, ID, IE, IF, IG, IH, II, IJ, IK, IL, IM, IN, IO, IP, IQ, IR, IS, IT, IU, IV, IW, IX, IY, IZ, JA, JB, JC, JD, JE, JF, JG, JH, JI, JJ, JK, JL, JM, JN, JO, JP, JQ, JR, JS, JT, JU, JV, JW, JX, JY, JZ, KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV, KW, KX, KY, KZ, LA, LB, LC, LD, LE, LF, LG, LH, LI, LJ, LK, LL, LM, LN, LO, LP, LQ, LR, LS, LT, LU, LV, LW, LX, LY, LZ, MA, MB, MC, MD, ME, MF, MG, MH, MI, MJ, MK, ML, MM, MN, MO, MP, MQ, MR, MS, MT, MU, MV, MW, MX, MY, MZ, NA, NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL, NM, NN, NO, NP, NQ, NR, NS, NT, NU, NV, NW, NX, NY, NZ, OA, OB, OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, OM, ON, OO, OP, OQ, OR, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RR, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TQ, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UU, UV, UW, UX, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VV, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WU, WV, WW, WX, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YY, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ.

At any time now, I'm going to stick my neck out by saying that the Easter Island excursion has not as yet taken place, so I'll content myself by saying that I haven't heard them yet.

A.O.C.P. CLASS

The Victorian Division A.O.C.P. Class will commence on Thursday, 30th July, 1953. Morse and Regulations are held on Monday and Theory on Thursday evenings from 8 to 10 p.m. Persons desirous of being enrolled should communicate with the Secretary W.I.A., Victorian Division, 191 Queen Street, Melbourne (Phone FJ 6997 from 10 a.m. to 4 p.m.), or the Class Manager on either of the above evenings.

DX C.C. LISTING

PHONE					
Call	No.	Chr.	Call	No.	Chr.
VKRW	13	172	VKRWJ	17	122
VKRWZ	3	183	VKRWJ	23	118
VKRE	10	183	VKRWJ	8	134
VKRU	3	159	VKIDO	20	112
VKRD	1	159	VKJATN	36	119
VKRS	9	159	VKSMR	24	102
VKRW	4	159	VKHO	24	102
VKSLN	11	141	VKRAZ	15	102
VKRFJ	21	141	VKJARA	18	102
VKJAW	14	140	VKRFJ	19	101
VKJJE	7	139	VKJGO	9	100
VKJWF	18	137	VKJGO	18	100
VKJDO	6	135	VKJLC	27	100

G.W.

Cell	No. Ctr.	Cell	No. Ctr.
VK1BZ	0 297	VK1AF	11 120
VK1HR	0 195	VK1EL	30 123
VK1D	15 125	VK1G	3 123
VK1GL	0 172	VK1H	3 123
VK1JF	20 100	VK1I	20 119
VK1KJ	20 100	VK1IT	30 117
VK1L	20 100	VK1J	30 117
VK1KN	1 181	VK1UM	13 116
VK1GW	10 161	VK1JL	24 116
VK1KA	10 161	VK1K	24 116
VK1RU	10 160	VK1LE	17 113
VK1B	10 147	VK1RC	12 112
VK1GL	20 146	VK1KK	40 104
VK1G	20 146	VK1K	40 104
VK1JW	4 143	VK1AP	14 101
VK1OL	0 143	VK1NC	19 101
VK1DO	20 141	VK1BA	32 101
VK1J	20 141	VK1BE	32 101
VK1JE	21 137	VK1AE	40 100
VK1PH	01 134	VK1CK	41 100

OPEN

Call	No.	Ctr.	Call	No.	Ctr.
VKJGZ	4	230	VKJTE	23	110
VKJH	13	195	VKJTM	43	120
VKJIE	13	195	VKJUA	43	120
VKJNS	18	195	VKJIA	43	120
VKJHJ	13	195	VKJIB	43	120
VKJFI	32	104	VKJHO	38	111
VKJHO	3	161	VKJPG	47	121
VKJEL	10	172	VKJDM	51	110
VKJH	13	195	VKJEM	51	110
VKJDI	2	170	VKJZB	56	110
VKJCK	1	187	VKJZC	58	108
VKJHJ	13	195	VKJZD	58	108
VKJDO	13	165	VKJAA	38	103
VKJAW	45	150	VKJVN	15	104
VKJHJ	13	195	VKJVL	15	104
VKJFL	38	163	VKJEP	44	104
VKJG	43	143	VKJGF	50	104
VKJHJ	13	195	VKJGZ	50	104
VKJMC	8	130	VKJEB	30	103
VKJOP	13	187	VKJTI	37	102
VKJHJ	13	195	VKJTH	40	103
VKJHT	41	135	VKJTK	31	102
VKJADE	38	133	VKJTV	30	102
VKJHJ	13	195	VKJVC	30	102
VKJAHM	30	135	VKJSH	31	101
VKJRW	52	121	VKJST	6	100
VKJHJ	13	195	VKJSG	39	100
VKJLC	56	113			

Have had quite a string of visitors this month. J3CO, J3ACR, J3AJP, J3ATP, s.w.l. Gerry Lane, and J3MZ. Gerry is in real strife. Has had six shots at the exam, and still hasn't cracked it. Not the code either, so a Technician's License won't help.

Didn't hear any argument about my proposal for a set of rules to cover Tx Hunts, so I presume everybody is in agreement (even those who admitted exceeding the speed limit). A committee will now be formed to go into the matter, I hope. Volunteers for the job will please form a queue from the front door of the Radio School, Melbourne Technical College, down Bowen Street thence east along Franklin Street on Wednesday, 1st July. After all names have been listed, the main business of the evening, namely a Swap Night, will take place. Remember, the demand is for small bits and pieces so bring along those for which you have no use.

I can see the Editor casting eyes on the SCRS. I'm getting from the boiling down project so, so long till next month.

SOUTH WESTERN ZONE

The Zone book-ups have been poorly attended of late, but were much better on 31st May—seven turning up, the most I have heard for some time; keep it up chaps, don't forget—3009 Kc at 1000 hours every Sunday. Conditions here have been in and out this month with some very good days on 40 and 80 mc. Have not received any notes as yet so have to depend on listening. Some of the Geelong boys were heard here, one highlight being Ed J3AKE on 40 and 80 mc. Another 144 Mc chap gone wrong. Had a QSO with Ed on 40 but it ended up on the dog pile, was his best DX up till then. J3AEF and J3APK heard on 80 mc but they forgot their receivers tune the whole band. The regulars J3AGD, J3AC, J3RG, J3I still find time for radio. Don't forget the next Convention early in November at Colac. Gordon J3GV and Jack J3ARC will be pleased to supply particulars, so don't be shy chaps.

NORTH EASTERN ZONE

Chas J3ACW is handicapped with his Ham activities by lack of space in a new home, while Alan J3Q next door has better luck and is building a rig for early use. By this time we hope Doug, J3J has been successful with his First Class Ticket. Murray J3EZ is very busy in his professional field, while Peter J3AFP

takes time to go Square Dancing. Les J3ALX is quiet in Shepparton and Johnny J3AKS is very quiet, but Alex J3AT is re-building his rig. J3CO in Seymour is using the air waves as is Syd J3C who has been on 2 mc with some success and also been visited by J3RE from Melbourne.

Alan J3I is quiet, while Keith J3C has been chasing DX, which field has been well and truly patronised by Ken J3KR to the tune of a recently completed W.A.C. Henry J3IP is running the Emergency Net in good style, but Howard J3YV has still not yet gravitated to 80 mc. J3GD from Stanhope is evident on the bands and Hugh J3AHP is making a thorough job of Zone Secretary. Tom J3TS has been fishing and duck-shooting. Jack J3FF and Rex J3UR, have no data on hand here. Col J3WQ is doing well by lining up three new candidates for Associate membership.

PAN NORTH WESTERN ZONE

Activity in the area over the past two months has been centred round the 2 mc band. Chas J3TI is the leader in activity and has a 12 element phased rotary beam on 144 Mc. and a two stage 144 Mc. The 2 mc rig is a two stage m.o.p.a. and so far signals have been heard at Red Cliffs where Bill J3AJU has a super regen rx hooked to a three element beam; signals reported 58-6, Ian J3AMJ, located at the Aerodrome, has an SCRS2 and is busy adapting same for the band. Any week-end there is great activity at J3TI's shack with the gang landing in with super regens for calibration and check, etc.

Have'n't heard from Frank J3FC at Ouyen for some time, but gather he is on the bands working a bit of DX once in a while. Noel J3AUG busy fitting prop. motor to rotary and making small portable for 40 mc work. Jim J3AFT appears on the band and has now mastered the faults he had earlier with his rig.

Two visiting Hams dropped in on us last month, namely J3TF and J3TV. Sorry you chaps didn't get round more of the gang whilst in this district. Graeme J3BN still inactive, but we have hopes of hearing him in the near future. Harry J3EF informs me he is far too busy and just can't get round to Ham Radio at the moment. Max J3GZ slowly assembling converter for 2 mc and is heard occasionally on 40 mc. Tx and four element rotary on 2 mc and signals have been heard at J3TI last month.

GEELONG AMATEUR RADIO CLUB

The club rooms were crowded at the first meeting in May. A visitor was Mr C. Manning, a well known man in radio. He was on a routine visit to the club and was welcomed by the President. A very fine lecture was given by J. Beckingham, A.M.I.R.E., whose subject was entitled, "Getting the most from Modern Electronics". He used the blackboard to illustrate his lecture. Many questions were asked and answered. The club also organised a technical night for its members. Among the films shown were "Antennas," "Radio and Television," "How Television Works," the programme lasting 2½ hours.


QUEENSLAND

Our May meeting saw John J3FT take over the unenviable position as our Chairman doing the job like a veteran, assisted in a few instances by Vince J3VL. The old stalwarts were there, plus Jack J3FI from Ipswich and 4WM from Quilpie. The meeting went with a swing accompanied by a background noise from the Dyer Show, which was in another part of the building. Harold J3KM was present, haven't seen your face around for sometime Hal.

4WM gave an address on the trials and tribulations of Amateur Radio up Quilpie way. Lively interest was taken in the items of business. Including the lack of lectures at meetings, more so the lack of lecturers. So if anyone has the urge to air their pet subject, be what it may, he will be welcomed with open arms. Seamus J3VI is still looking for a new home as Ray J3LF is unable to cope with the job owing to lack of space and other troubles. Anyone interested please contact the Secretary.

May will be a month to remember owing to the poor conditions prevailing. Most nights one could tune the rx over any band and hear very few signals. I Mc. seemed to be the best, with a few of interest. Fred J3FS keeps this band alive from VKX, though I did hear him on 144 Mc. once. Heard 4WM being called but could not hear him here. Have heard DX on this band when others are washed out. Worked W1 with the 5 watts and also two new countries, a ZEI and George J3GM on Norfolk Island, who put a very nice signal in here with 15 watts. It's there if one can put up with the commercials.

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On 14 Mc. the Americans come through of an afternoon and occasionally on phone at night with an European or two with John ART after them. The c.w. end is a complete blank after 8 a.m. Except for Frank 402 and Jim 403, nothing heard here.

John 4PT has been working across town with his "Beath Robinson" modulator, he screen modulates with the audio end of his rx. One way of saving an expensive modulator. Bill 4VA has survived a 2 element beam in his back yard, and getting some f.b. reports. Keith 4KS has had a "busman's holiday" painting his house with little time for DX hunting. Clive 4CC does a bit of exhorting, both c.w. and phone, and I'm still waiting to hear his findings on the all-wave beam. How Clive? Vince 4VJ heard without his s.s.c. and an occasional peep from Aussie 4TN and John 4FP. Jim 4PI is taken up with the joys of motoring with his motor scooter. I'm expecting to see "Pedro" emblazoned across it one of these days. Seems as if the tx to end all tx's is on ice for the moment. Des 40Z puts a 9 plus signal in here at times.

Les 4NV has been working both 14 and 7 Mc. while my Ipswich guy tells me things up that way are very quiet, only an occasional noise from Leon 4PW and maybe Harold 4TO.

By the time this reaches us, our minds should be turning to the R.D. Contest and means of bringing the trophy to this State. The mighty effort put up by our top winners in the last R.D. Contest gives one hope, for on calculations only eleven more logs were required, and we would have been able to "droll" over the trophy. The Contest Committee urges everyone to participate even if its for the required few contacts and submit your logs promptly. Last year a few logs were too late to be included and lost us valuable points. So what say, fellows, be in it and we'll win it. And also you will have a lot of fun.

Congratulations must go to 4BT and 4KK on their score in the Ross Hall Memorial Contest. It shows some Queenslanders are on the ball. Must take a look at the v.h.f.s. again some day. Even though I'm surrounded by hills. Might hear the man in the moon or the W that has been bouncing signals off him.

And a word of warning, don't believe that guy from the B.B.S. My Melbourne guy tells me they were only humoring him, till his wader arrived, by letting him sit in the chair

NORTHERN DOINGS BY VKEL

Well news is still scarce from this neck of the woods, with conditions at a "new low". It seems that most of the boys up here don't bother to come on the bands after a preliminary listen around, which I think is a bad practice to get into. I always believe in giving two or three calls on each band to try and raise some of the chaps doing the very same thing, "listening," and believe me it works. Got an FFS on 21 Mc. one day, so remember fellows, don't have everyone listening and no one transmitting, you get nowhere fast that way.

Now for what news is about Eddie 4WH has made a comeback after being flooded out and has been heard with that copper-plate fist of his on 14 Mc. mostly, seems to get his share of DX as usual. 4TV still keeps 14 Mc. warm in spite of his half element (du) beam, and works some xkeds with old VKI coobers and ZLs. Bob 4RW not heard much, but did hear him calling an FFS on 14 Mc. what about some news Bob, to help fill this column? Wally 4HR still very QRL in the business of making ers at our brand new powerhouse in Townsville, still threatening a come back and 144 Mc. v.h.f. links etc.

4TH heard on 31 Mc. with a mighty signal and seems to be getting amongst them, has a very f.b. rig when he gets a chance to use it. Now that Doug 4DB is finished with exams, will be thinking of Ham Radio again. Bill 4BQ has been going places on 31 Mc. and seems the only one of the Mackay gang to be active at all.

Frank 8FN has been very QRL with 6 Mc. National Tx, so not much time for Ham work, still works 14 Mc. at odd times though. Chas 8WG is mostly on 14 Mc., but did pop up on 3.5 Mc. recently and did quite well too, but QRN very bad up there. Doug 8DB has returned from leave and re-building the tx, going to make it smaller it seems. Les 8HI is not on much due to being QRL with gardening, etc. 8WK making a comeback and hopes to be on to supply some notes for next month's issue. Geoff 8CW is the most active up in N.G. and can be heard mostly on 31 Mc. which seems to be his favourite band, often heard knocking 'em over, lots of Europeans, etc.: now using 8JK which has the natives puzzled as to why he should have a canoe, way up atop a pole and upside down at that. Hi!

4EL, well I'm still active on all bands, but not much to report for this month 21 Mc. still the best bet for DX on phone, and 7 Mc. for v.w. Tests with a 31 Mc. Lazy H show it to be one of the best yet tried. What about some info. for next month's column?

SOUTH AUSTRALIA

The monthly general meeting of the VK3 Division was held as usual in the club rooms to an above normal gathering of members who had apparently come along to hear Clem Tillbrook, 5GL, lecture on V.h.f. Techniques. It is my usual practice at this point to launch out on a detailed description of the lecture for the night, but as I slipped from the rotor car of HAI SAW prior to entering the club rooms, a gangster-looking individual sidled up to me and said in a menacing voice, "Say Bud, this lecture tonight is my piece, it is a v.h.f. lecture, and as I am the v.h.f. scribe for VK3, and very short of material, if you value your health, then lay off." Giving him a look faintly resembling Bulldog Drummond, I said in a deep and resonant voice, "On your way, snail fry. I have my duty to my readers and nothing you can say or do will shake me from my resolve to write up this lecture." To cut a long story short, if you look on the v.h.f. page in this magazine you will see the details of the lecture given by Clem, and it is very lucky for Gordon SXU that I decided to ignore him. After all, how could I do otherwise, he has a wife and eleven children, to say nothing of the fact that he is going to give me a couple of HIKs for my 348 Mc. tx, I hope!

Opportunity was taken of the fact that Frank SDW was at the meeting, to present him with a slight token of the esteem that the VK3 Division had for him and also to show him that we were sorry that he was leaving us for good to return to the State of forgotten men VK3. Frank was a staunch councillor and member of VK3 and our definite loss will be VK3's gain. Best of luck Frank.

Among the visitors were Messrs E. Miller, E. McKinnis, E. Byrnes, R. Purth and R. Roper 8PU, who is gradually getting back on his feet after a bout with polio, and last, but by no means least Rob Curr, 8PC, ex-185 Rob has no respect for the President because when I said to him, "Don't forget my QSL," he very rudely said, "You'll get it when I

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get yours." He beckoned away before I could reach the gavel.

The President very carefully and lucidly read through the Convention agenda items for the benefit of all present, and the meeting, after giving the President a respectful and ardent salute, all pinched each other and ratified all items. The meeting then considered a letter from the Chief Inspector (Wireless) in V.K. concerning what was possibly a nearby oscillating valve each Sunday morning at 10 a.m., and when the President finally resumed order, the meeting was closed official and continued unofficially for quite a long time.

Jim 3FO caused quite a commotion at the sitting by sitting down in the front row and filling out his QSL Cards. As Doc 8MD said in a stage whisper, "Good Lord, this Joker is a bit of a fanatic."

Several of the Council members left the meeting early because of heavy colds or the flu, nevertheless the President bravely carried on, giving the little bag ofampy and acid around his neck, although he did admit, when pressed after the meeting that his pulse was 38.5, rising, and his temperature was falling a couple of mill-bars. I am pleased, however, to report that all Council members are able to sit up and take some notes.

WEST COAST AREA

SVI has been bringing in the DX on his super-duper brand new rotary beam, but Jack cannot understand why the beam motor kicks up so much din in his rx. Wally suggested that the beam motor of both Jack's beam and the rx then all would be quiet! SLT is at present off the air because he is shifting his QTH to another part of the continent. Any time in the vicinity of the new QTH Part 2B will be appointed power station leading hand and assisted in this position. The beam will prevent him from working the DX on his rx (as yet unfinished), whilst the other boys are at the workbench of what? Why? Because Wally time has been off shiftwork. The net will be definitely finished in time for the R.D. Contest and then Wally will be flat out to secure higher points for the most important State in VK. And so say all of us!!

ANV made a flying visit to Port Lincoln recently, literally a flying visit. Les new over in an "Aurora" which was badly broken and repaired by his VL. No reports as to whether he saw any DX floating about on the way over. Oh, try.

In my notes last month I made mention of the fact that I was glad that I was not at the Annual. Jim Puris had a few words to say about the President's remarks and that the reason for my gladness was that I felt sure that Jim would not have anything to say about my gladness. I had not intended to pay a little debt of honour to him and I knew how lousy some grocers were about these things. I did not intend to pay a little debt of honour to him, saw fit to erase the difference and therefore I can only conclude that he did not want me to say anything about Jim in my notes and as I am a very dutiful scribe, I won't mention a word!! Last month when I paid my famous visit to VK3, a certain gentleman who runs a Government boarding house in the city of virtue (VK3) please note, went almost green with envy and immediately was to be seen consulting

rail, shipping, and air pamphlets, at the same time throwing superior looks at me. The outcome of all this was that I had a letter from writing. Doc 8MD is on the water somewhere between Adelaide and Sydney, I nearly wrote. In the winter, but that is wishing things. I can see him now, walking up and down the promenade deck, wearing his new style three-quarter length trousers, his new boots, his new necktie shirt, his size fourteen military boots, and his sou-wester hat. Oh boy, oh boy, what it is to be in the money. Sir Edward and Lady Smith are very much in the money and obedience. That word doesn't mean what you think it does, Barber!!

UPPER MURRAY AREA

With unseemly promptitude the notes from my secret agent (number 3463) continue to arrive. I must tell you that I am not a member of writing. Doc 8MD is on the water somewhere between Adelaide and Sydney, I nearly wrote. In the winter, but that is wishing things. I can see him now, walking up and down the promenade deck, wearing his new style three-quarter length trousers, his new boots, his new necktie shirt, his size fourteen military boots, and his sou-wester hat. Oh boy, oh boy, what it is to be in the money. Sir Edward and Lady Smith are very much in the money and obedience. That word doesn't mean what you think it does, Barber!!

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ACCURATE FREQUENCY TRANSMISSION RESULTS

28th May, 1953

It is regretted that owing to an oversight this transmission did not take place on the 21st May as scheduled.

3500 Kc.	.....	224 cycles low
3530 Kc.	.....	23 " "
3560 Kc.	.....	24 " " high
3590 Kc.	.....	37 " "
3620 Kc.	.....	41 " "
3650 Kc.	.....	11.6 " "
3680 Kc.	.....	26 " "
3710 Kc.	.....	zero error
3740 Kc.	.....	5 cycles high
3770 Kc.	.....	20 " low
3800 Kc.	.....	7.4 " "

moment, how would I go Mr. Kelly, Sir! All right, all right, there is no need to be personal. The usual monthly meeting of the Upper Murray gang was held this month at the QTH of Harry SKW and those present were QTH, SKO, 8MD, STL, and naturally, Kelly, Sir, and his apologies, but if he had heard the booing and catcalls that greeted it, he would not have bothered. SKW excused himself on the grounds of working and the gentleman who called in at the Siddley-winning b.c. station on their way out confirmed this fact. They said that Hughie was waving his hands, nodding his head, and talking at the same time to convey what he wanted done with the job in hand. The only reason that he was not waving his feet was because he needed them to stand on. The meeting was its usual success, and as my agent remarks while they might not get news paper publicity or elect officers, or even a chief spy, they are going along merrily doing what makes radio tick, and the feeling at the meetings is really excellent and the exchange of ideas is mixed with pleasantness. I can well imagine it! A couple of applications for Associate membership of the VK3 Division have been sent along as a result of visitors at these meetings, and the wives of the members have been invited to the girls' group in their homes. We graciously salute them.

"Wick" SWM, a confederate of mine at the R.B.S.S. has just returned from a trip to VK3 where he paid a visit to an uncle and coming overseas broadcast station at Shepparton. Since he came back to work he has nearly driven his uncle to the wall with repeated reference to a tiddley-winning station, and after doing a little cross examining I now know the reason for his being "stuck in the track." It appears that the joker that showed him around the said station finally wound up the tour of inspection by saying "tell the VK3 President that you have now been over the best broadcast station in the world, and that we give tomorrow's news today." I have been trying to remember the words of this insolent fellow, but so far so good, I think that it is VK3BEE, so that's not it. VK3BTOIT, no that's not it. Eureka, I have it. VK3A, Anyways, the VK3 President's new broadcast station in the State of VK3 gives last week's news next week, so wheel that one in on your plate tank barouch!!

SOUTH EAST AREA

Quite often I bump into somebody who has taken a trip down to the South East Area, and

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